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'Futile' format war leaves users cold

The battle between the two competing high definition disc formats – HD DVD and Blu-ray – is futile, a new report has found.

According to a study by analyst firm JupiterResearch, most consumers aren't interested in buying HD material, no matter what format it comes in. While HD DVD and Blu-ray compete to become the dominant disc format for HD material, Jupiter found that under a quarter of consumers felt that HD was a reason to upgrade their home entertainment equipment. The format war between the two camps only adds to consumer confusion, creating a further challenge to the adoption of HD.

According to the research, consumers are happy to stick with conventional DVD, despite its lower resolution, because of the extensive catalogue of titles available. In comparison, the number of HD titles on the market is significantly smaller and not all movies are available in both formats, which provides little incentive for consumers to upgrade their equipment.

"CDs and DVDs both offered a clear value proposition to consumers when they were introduced to the marketplace," said JupiterResearch vice-president Michael Gartenberg, the lead author of the report.

"There was a visible difference in the experience that was easily grasped. The real competitor that

both these formats face is not each other, but rather low-cost DVD players with upscaling capabilities that pass the 'good enough' test for most consumers."

The increased speed and availability of broadband is a further challenge to both formats, removing the need for a physical disc to distribute content. According to Jupiter's figures, the market for downloadable video content continues to grow each day.

"The abundance of material in such a wide variety of formats is going to make adoption of any single standard very difficult as consumers may well opt for a combination of what is already available," said David Schatsky, president of JupiterResearch.

"To be successful, manufacturers must offer a clear and visible improvement in quality and functionality as well as place greater emphasis on platform longevity and backward-compatibility."

Although Microsoft is currently backing the HD DVD format and sells an external add-on drive for its Xbox 360 games console, Bill Gates has publicly stated that he thinks the HD DVD v Blu-ray fight will be the last physical format war. In future, according to Gates, consumers will just download content over the internet to playback devices, removing the need for a physical format to distribute the data. Microsoft currently offers HD TV and movie downloads for sale via its Xbox Live service in the US, but no date has been set for a UK launch.

► The Blu-ray format is backed by a number of companies, including Sony and Toshiba...



◄ ...while HD DVD is backed by Microsoft and Intel. Consumers, however, don't seem to care for either platform

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Viruses and data on sale in online black market

Internet black markets, where hackers buy and sell viruses and stolen data, have been discovered by US university researchers.

Staff at Carnegie Mellon in Pennsylvania monitored underground markets for seven months, automatically cataloguing the activities of criminals profiting from viruses, identity theft and spam.

"These troublesome entrepreneurs even offer technical support and free updates for their malicious creations that run the gamut from denial-of-service

attacks designed to overwhelm websites and servers to data-stealing Trojan viruses," said Adrian Perrig, an associate professor of electrical and computer engineering at the university.

According to the research, buyers typically approach sellers via email or instant messaging, and money is exchanged via non-traceable sources such as e-gold.

During the seven-month investigation, 80,000 credit card numbers were offered for sale. The value of illicit goods totalled more than \$37m (around £18m).



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This month's hot new products include a Mio smartphone with a built-in GPS receiver

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Small notebooks get even cheaper

Asus has launched a tiny, low-cost laptop for just £211 inc VAT. European PC manufacturer Packard Bell, meanwhile, is offering a portable PC with a 7in screen for £350.

The Asus Eee PC 701 has a footprint smaller than a piece of A5 paper and weighs less than 1kg. Despite its low price, it's a fully equipped PC, with a 900MHz Intel Celeron-M ULV processor and 512MB of RAM. You don't get a copy of Windows at that price, but it runs a customised version of Linux and, as a result, can boot in under 15 seconds. The hard disk is a solid-state model (see below), which uses flash memory to store information and is available in either 4GB or 8GB capacities.

The 701 has a 7in screen, integrated webcam, microphone, speakers, internal 802.11g WiFi adaptor and an optional 3G module for mobile internet access. It also features an integrated card reader, three USB2 sockets and a VGA port.

The Packard Bell EasyNote XS rivals the 701 for size and weight, but comes with a full copy of Windows XP Home Edition thrown in. However, it does cost around £140 more. It features a 1.2GHz Via C7-M processor, 1GB of RAM and a 30GB hard disk. Like the 701 it also has a 7in screen, integrated WiFi and a webcam, but it also comes with Bluetooth. Two USB ports are available and there's a DVI port for hooking it up to an external display.

The Eee PC 701 is also available as the RM miniPC for those in education for just £199 from www.rm.com. The EasyNote XS can be found in branches of PC World. See next month's issue for a full review of the Eee PC 701.



◀ The Asus Eee PC 701 packs a fully functional PC into a tiny chassis for just £211

Behind the headlines: what is a solid state drive?

Since the early days of the IBM PC, computers have used volatile random access memory (RAM) for performing calculations and non-volatile hard disks for persistent storage. However, the advent of flash memory, which doesn't require a constant power source to maintain its contents, combined with a massive decrease in the cost of memory chips, has meant that solid state drives have become a realistic proposition.

A solid state drive emulates a traditional disk drive, but uses flash memory for storage instead of a spinning magnetic platter. This has many

advantages over normal disk drives. As there are no moving parts, it's less likely to malfunction, it's more resilient to shocks and vibration and it's faster to access as there's no head that physically has to move to read the data.

However, storage capacity is limited compared to normal disks. The current maximum generally available is 64GB; this is easily surpassed by traditional hard disks, which are pushing 1TB in capacity. Solid state drives also cost far more per gigabyte compared to conventional hard disks, making them an expensive luxury.



▲ Solid state drives have many advantages over traditional drives, but storage space is not one of them

New Sony camera spells the end for memory cards

Sony has launched a high-capacity digital camera that removes the need to buy additional memory cards.

The Sony Cyber-shot DSC-T2 features a generous 4GB of internal flash memory, providing space for up to 1,250 images shot at the highest 8.1-megapixel resolution. Drop the frame size to 640x480 VGA resolution, which is

suitable for web use, and it can store a massive 40,000 images. If that's still not enough, there's a MemoryStick slot for further expansion.

The Cyber-shot DSC-T2 features a 2.7in touch-screen display for reviewing your shots and comes in a range of colours, from the sedate black and white models to more flamboyant blue, green or pink options.

The Sharemark features makes it easy to upload photos to photo-sharing websites. Simply tag your pictures and they'll be automatically uploaded to your chosen site when you're next online.

The T2 comes with a Carl Zeiss Vario-Tessar lens with 3x optical zoom and includes Sony's Double Anti-Blur technology to deliver crisper results even in low light, and built-in Face Detection to help keep people in focus.

The Cyber-shot DSC-T2 should be available by the time you read this. It is expected to be priced at around £300 including VAT.



Apple releases Leopard into the wild

Company claims over 300 new features in latest version of its OS X operating system

Apple has launched the latest release of its OS X operating system, version 10.5 Leopard. It has been in development for two-and-a-half years, the longest in the history of OS X.

According to Apple, the new version includes over 300 new features compared to its predecessor, version 10.4 Tiger. Coverflow, previously seen in iTunes, is now integrated into the Finder window and it sports a new 3D dock application launcher. Apple has introduced stacks to the dock, providing quick access to commonly used files. Networking support is much improved, with automatic detection of both Mac and PC computers on the network.

Spaces provides virtual desktops, so you can keep work and play separate on your machine, and you can easily drag and drop applications from one desktop to another. Apple has also included comprehensive backup support with the inclusion of Time Machine, which automatically backs up changed files to an external disk when it's plugged in. Files are restored by navigating through windows that show the contents of a particular folder at different snapshots in time.

Leopard costs £85 for a single machine or £129 for a five-licence family pack. Customers that bought a Mac after 1st October can upgrade for just £5.95.



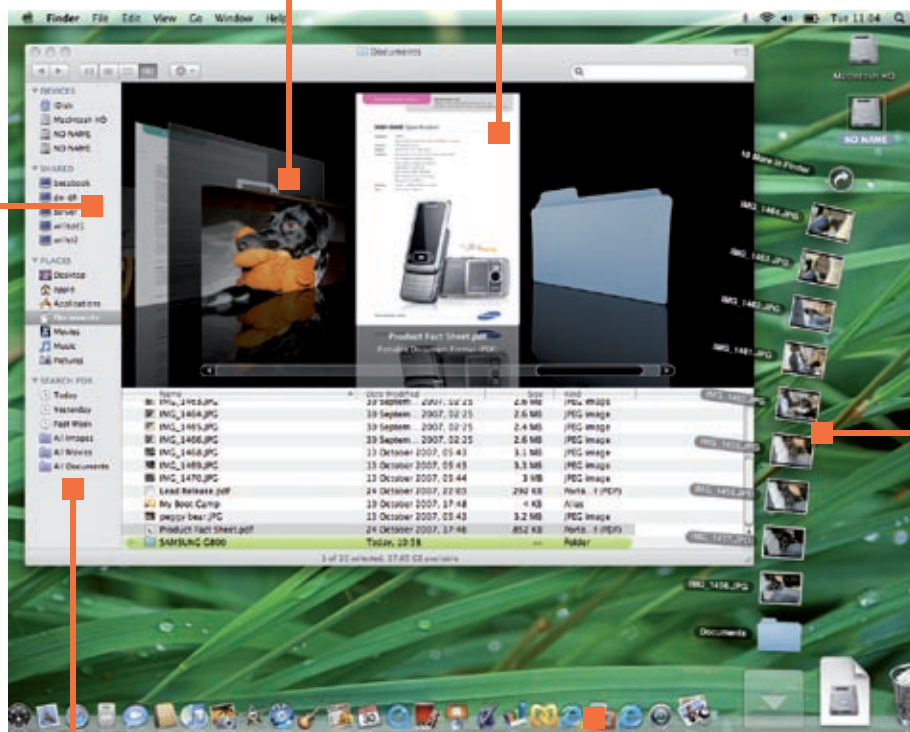
▲ Apple's virtual desktop, Spaces, allows you to drag and drop applications between screens

Leopard's new spots: the new Mac OS in detail

Coverflow, previously introduced in iTunes, is now integrated into the OS. You can flip easily between large icons that show you a quick preview of what's in your files, making it easier to track down the document you're looking for

You can even flip through pages of a PDF without opening it directly from the Finder window, so you can make sure you've selected the right file

Leopard offers better support for networking. It will automatically scan the network for computers it can talk to and will communicate with both Mac and Windows machines



Stacks, which pop up when you click them, provide quick access to commonly used files. All downloads are added to a new stack, making them easy to locate without cluttering up your desktop

New search tools make it simple to find documents you've just been working on. Select Today, for example, to see files you've accessed in the past 24 hours

The new Dock application launcher is now 3D, with icons sat on a translucent reflective shelf. Running applications have a small light in front of them

Mac OS timeline Apple through the ages

System 1 wasn't the first graphical user interface, but it was one of the most successful. It featured many things we now take for granted such as windows, icons, a mouse, and menus.



Mac OS developed steadily from 1984 to 1999, with version 9 adding multiple user support, TCP/IP and the ability to receive software updates directly from the internet.



OS X was a complete rewrite of Mac OS, based on a UNIX core. Although incompatible with previous versions, it included emulation in Classic mode – version 9.1 running within OS X – which allowed older applications to work.



OS X developed gradually, with 10.1 Puma later in 2001, 10.2 Jaguar in 2002, 10.3 Panther in 2003, and 10.4 Tiger in 2005 – the first Mac OS to run on Intel chips. It took a further two-and-a-half years for 10.5 Leopard to be released.



1984 – System 1

1999 – Mac OS 9

2001 – Mac OS X Cheetah 10.0

2007 – Mac OS X 10.5 Leopard



DirectX 10: a developer's view

DirectX 10 is Microsoft's new technology for games programmers and graphics card manufacturers. It's more advanced than its predecessors and, for the first time, not backwards-compatible with older hardware. We spoke to Andrew McDonald, a programmer at Rebellion, to get a developer's point of view on the technology.

Computer Shopper: Why have we had to wait so long for DirectX 10? Is it the introduction of .NET, the Windows Display Driver Model (WDDM) and XACT (for producing sound) with Vista?

Andrew McDonald: There's no specific dependence on .NET, and XACT works on Windows XP, too. Vista's driver model was rebuilt to make the new features of DirectX 10 possible, and Microsoft wants Vista to be a good platform for game developers. By fixing requirements like that, it makes it much easier for developers, who now have to worry about fewer software configurations. If Vista had been released earlier, we'd have seen DX10 sooner, too.

CS: Is Microsoft trying to push developers towards one development environment common to both Windows and the Xbox 360?

AM: Microsoft is certainly making it easier by developing tools such as XACT that work the same or similarly on both platforms. The XNA framework means that even hobby coders can get in on cross-platform development. Microsoft's programming environment, Visual Studio, also provides a common toolset for both platforms, so the development experience is much the same.

CS: How similar is it to develop for the Xbox 360 and the PC? Does the similarity help to reduce coding and porting times?

AM: It's certainly very similar. In fact, lots of code that developers may already have for Windows will compile without modification for the Xbox 360. It's a great boon to be able to target two platforms at once with little change required.



▲ DirectX 10 (below) is far superior to DirectX 9 (top)

CS: Was it refreshing for the original Xbox to have such a familiar coding environment? Did this contribute to its success?

AM: As far as developers were concerned, definitely so. If you had an existing Windows DirectX engine, it was very easy to get up and running on Xbox. That spirit continues with the 360.

CS: Do you think Microsoft is likely to release a new version of DirectX for Windows XP users, or are they stuck with 9?

AM: You'd have to ask Microsoft, but I doubt we'll see DirectX 11 on XP. As consumers [move] to Vista, it becomes less important and less feasible to maintain the technology over multiple operating systems.

CS: What would you like to see in the future?

AM: The DirectX developer support group is always helpful, but you can never have too quick a response!

USB 3 and wireless USB 1.1 are quicker than ever

The next version of USB will be 10 times faster than the current standard. USB 3.0, dubbed SuperSpeed USB, will have a transfer rate of 5Gbit/s, compared to the 480Mbit/s of USB 2.0.

The next generation of USB technology will be created over the next three years. It's being designed to cope with the increasing amounts of data that people are transferring between devices.

The faster speed means that a 25GB high-definition video file

could be transferred in 70 seconds and a 4MB MP3 file in 0.01 seconds. It's also designed to sync data as it's transferred, eliminating wait times that can be up to one and a half minutes with USB 2.0.

The USB Implementers Forum also announced its plans for Certified Wireless USB 1.1, which is being developed on a similar time frame and builds on the current Wireless USB 1.0 specification.

Wireless USB 1.1 focuses on improving power efficiency and

includes new options to connect Wireless USB devices with the host. It will also include support to allow devices to communicate using Ultra Wide Band radio frequencies above 6GHz.

A new 'touch-and-go' device recognition system will allow a WUSB connection to be made with a device when it passes within 10cm of the host. This secure Near Field Communication system operates in a similar manner to London Transport's Oyster cards.

Apple limits iPhone sales to prevent unlocking

Apple has changed its policy on iPhone sales, limiting customers to a maximum of two units each. The devices also have to be paid for by credit or debit card.

Apple has introduced the policy in an attempt to prevent iPhones being sold by unauthorised resellers, which results in Apple missing out on call revenue from its deal with phone networks.

"Customer response to the iPhone has been off the charts, and limiting iPhone sales to two per customer helps us ensure that there are enough iPhones for people who are shopping for

themselves or buying a gift," Apple spokeswoman Natalie Kerris said. "We're requiring a credit or debit card for payment to discourage unauthorised resellers."

Apple estimates that of the 1.4 million iPhones sold so far, 250,000 units have been unlocked so they can be used on other mobile networks.

Apple previously allowed customers to buy up to five iPhones and accepted any means of payment, including cash.

The iPhone became available to buy exclusively from O2 on 9th November.



IN BRIEF

HERE IS THE NEWS – ON ITUNES

ITN is to offer free news and entertainment programmes through iTunes. The UK news service will insert 'pre-roll' ads at the beginning of each clip, with BMW the first company to participate.

Programmes will include UK, world, sports, show business and business news. iTunes users will be able to download the Movie Buff and Hollywood A-List cinema guides, Sports Fix, ITN's weekly sports programme and EPL, a football round-up.

LINUX DOUBLES MARKET SHARE

Linux has doubled its share of the desktop market over the past year, but has still to reach even 1 per cent of computers, according to figures that monitor the computers used to access over 40,000 websites.

Website statistics company Net Applications says that 0.81 per cent of computers were running a version of Linux in September 2007, more than double the 0.4 per cent recorded the previous September.

GIMP EMERGES FROM THREE-YEAR HIATUS

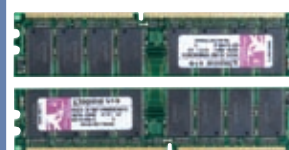
It has been three years in the making, but the latest version of GIMP has finally been unmasked, revealing a host of new features.

The GNU Image Manipulation Program (GIMP) is an open-source image editor that runs on Windows, Linux or Mac OS and supports all the major image formats. It has a comprehensive set of retouching and colour-correction tools and filters.

PRICE OF RAM HITS ALL-TIME LOW

The glut of computer memory has caused the price of the most widely used RAM to fall by a quarter in a fortnight. DRAMeXchange, a memory-trading website, reports that the price of a 512Mbit, 667MHz DDR2 chip fell to a new low of \$1.31 (around 64p). The fall was prompted by oversupply.

To find out how cheaply you can now buy memory, see *Labs* on page 110.



IN BRIEF

IPOD CATCHES FIRE IN OWNER'S POCKET

A two-year-old iPod Nano caught fire in the pocket of its owner. Danny Williams was working at Atlanta airport when the iPod combusted, burning for 15 seconds. He believes glossy paper in his pocket may have saved him from burns.

Apple told Williams it will replace the iPod but declined to make any comment.

BT WANTS CUSTOMERS TO SHARE WIFI

BT has challenged its three million consumer broadband customers to help set up the "world's largest WiFi community." Together with WiFi provider Fon, BT wants Total Broadband users to share their WiFi connections with each other and Fon users worldwide.

Fon works by getting people to open a separate, secure channel on their wireless router, which can then be accessed by anyone who has done likewise with their own router. For more details, see *What's New*, page 52.

MCDONALD'S SERVES UP FREE WIFI

Fast food chain McDonald's is to offer free wireless internet access across its 1,200 outlets in the UK. The project will make the company the biggest free WiFi provider in the UK.

The move reflects increasing competition in the UK's broadband hotspot market, where access frequently costs as much as £6 per hour.

UNIVERSAL PLANS 'FREE' MUSIC SERVICE

Universal Music has been courting fellow members of the Big Music club in an effort to set up its own digital music service. Universal is proposing a Total Music subscription service that would be bundled with mobile devices such as phones and Microsoft's Zunes as well as consumer electronics kit such as the PlayStation. The cost of the service would be covered by device makers and mobile network operators, making it free for the consumer.



US gets tough on sharing

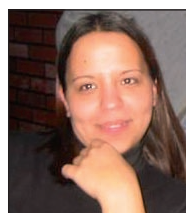
Woman fined \$220,000 for downloading 24 songs

A woman in the US faces a bill of \$220,000 (around £107,000) after being found guilty of sharing songs for which she didn't own the rights. The defendant, Jammie Thomas, was convicted by a Minnesota court of wilful copyright infringement for making 24 songs available for download via file-sharing networks.

The case is the first of its type to reach trial. The jury ordered Thomas to pay \$9,250 (around £4,500) per song. Once legal fees have been taken into account, she could face a bill of half a million dollars.

The prosecution aimed to prove that Thomas was the same person as a file-sharer operating under the online alias of 'terestarr', who had been identified by investigators for the music industry. Richard Gabriel, representing the record labels that brought the action, submitted screenshots as evidence showing that Thomas had used the online alias several times. Gabriel also argued that terestarr had the same IP and MAC address as Thomas's own computer. IP and MAC address are supposed to be unique to individual machines.

However, Brian Toder, Thomas's attorney, argued that it would not be impossible for someone else to use her name and IP address and dismissed the evidence as unreliable.



▲ Jammie Thomas is raising funds to pay for an appeal

Thomas's case was weakened by the fact that she replaced the hard disk in her PC shortly after receiving letters from the Recording Industry Association of America (RIAA) informing her that she was being prosecuted for file-sharing. According to Thomas, she replaced the drive because it was faulty, not to obscure any potential evidence of file-sharing activity.

Writing on her blog (<http://blog.myspace.com/terestarr>) after the conviction, Thomas claimed that the reason she lost the case was down to not having enough money to fight the RIAA.

"I was sued by the RIAA for illegally downloading and uploading music on the Kazaa network," Thomas wrote. "I refused to settle as I DID NOT do this and I was not going to be bullied, PERIOD."

"What made me lose?" she continued.

"Main thing is money. I don't have it, the RIAA does. Simple as that. I couldn't afford certain things I needed; my attorney gave everything he could, so we trudged ahead full steam with what little resources we had. In the end, it wasn't enough."

A webpage created by a third party to raise funds for an appeal against the conviction has also been set up at www.freejammie.com. The total donated at the time we went to press was \$16,197.84 (around £7,900).

UK pre-release music site busted

A UK site that distributed albums before their official release date has been shut down by the International Federation of the Phonographic Industry (IFPI).

According to the IFPI, OiNK was the world's largest source of illegal pre-release music. The site was shut down by a joint operation between British and Dutch police. A 24-year-old man was arrested in Middlesbrough.

The raids follow a two-year investigation by the IFPI and British Phonographic Industry (BPI). The site's servers, based in Amsterdam, were seized as part of the operation.

To download music from OiNK, new users had to be invited to participate by an existing member. According to the IFPI, OiNK was responsible for 60 major album leaks this year and had 180,000 members when it was closed down.

"OiNK was central to the illegal distribution of pre-release music online," said Jeremy Banks, head of the IFPI's Internet Anti-Piracy Unit. "This was not a case of friends sharing music for pleasure. This was a worldwide network that got hold of music they did not own the rights to and posted it online."

"This operation was a classic example of how the recording industry can work with law enforcement agencies to prove that illegal operations on the internet are not immune from detection."



▲ Fasthosts customers have been advised to change their passwords

UK's largest web-hosting company is hacked

Fasthosts, the UK's largest web-hosting company, has warned customers that the security of one of its servers has been compromised. An attacker is believed to have gained access to users' usernames and passwords.

The company claims to have closed the security hole used to gain control of the system and is advising users to change their passwords. These include passwords for accessing the main control panel, email, FTP and database services. Surprisingly, Fasthosts does not encrypt passwords stored on its systems and claims that most internet companies avoid doing so to help with customer service enquiries.

Fasthosts claims to be working with police in an ongoing investigation. In a statement, it told *Shopper*: "The company is currently working with the police and other relevant industry bodies in investigating the incident. As the breach could relate to Fasthosts customer data, in line with our established practice of protecting the interests and privacy of our customers, Fasthosts has subsequently reviewed and updated its security and worked with external security experts to ensure that all data held by Fasthosts is secure."

Paedophile suspect captured using 'reversed' images

A man has been arrested after Interpol launched a global hunt to identify a suspected paedophile whose face had been digitally disguised in child abuse images.

The 32-year-old Canadian man, identified as Christopher Neil, is believed to be the person depicted in the images. He was arrested by the Royal Thai Police in north-east Thailand on 19th October, just over a week after Interpol launched its global appeal, which was codenamed Operation Vico.

The appeal for information to find 'Vico', so-called because the images were believed to have been taken in Vietnam and Cambodia, was the first of its kind to be conducted by the international police agency.

The images, which had previously been distributed via the internet, featured a man whose face had been obscured digitally with a swirl pattern to hide his identity. Interpol worked with specialists from Bundeskriminalamt (BKA) in Germany to reverse the digital manipulation and produce an identifiable picture of the man.

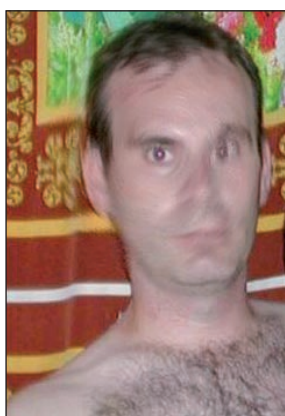
"For years, images of this man sexually abusing children have been circulating on the internet," said Interpol's secretary general Ronald K Noble. "We have tried all other means to identify and to bring him to justice. We are convinced that, without the public's help, this sexual predator could continue to rape and sexually abuse young children whose ages appear to range from six to early teens."

Just 10 days after the unscrambled images were released, an arrest warrant for a Canadian national was issued by Thai authorities, claiming the man was the same one identified in the original images. The warrant was issued by the Royal Thai Police following a statement provided by a 17-year-old boy who alleged the man identified in the images had sexually molested him several years earlier. As a result, Interpol published an international wanted persons notice, also known as a red notice, for the Canadian national.

"The great response from the public and from the Interpol National Central Bureaux in the region concerned, Canada and Germany, coupled with the swift actions of the Royal Thai Police, have enabled the global law enforcement community to move one step closer to bringing this sexual predator to justice," said Noble.

"Interpol decided to launch this appeal to help police in our member countries to identify 'Vico' and to protect the public from a sexual predator. The results achieved... have shown that Interpol as a global organisation can help police at the local, regional and national level to keep their citizens safe," he added.

The first lead that enabled police to identify the suspect came just 24 hours after Interpol launched its appeal to identify the unknown offender. Interpol received more than 300 statements from the public and five people independently named the same person as a potential match.



NEWS ANALYSIS

Detection technology: the bigger picture

Interpol's dramatic release of a suspected paedophile's image, conjured from a swirling distortion of an original, has captured the attention of the world's media. The idea that specialist computer forensics experts could decrypt a seemingly irreversible mess and turn it into a recognisable face is fascinating. Furthermore, the suspect has been caught. This is directly as a result of global interest in a story related to computer forensics. It's the sort of thing you'd expect to see in an episode of the TV series *CSI: Crime Scene Investigation*.

Releasing technical information about crime detection may be interesting to casual observers, but there is another group of individuals who will have paid considerable attention to the case of the swirly picture. By sharing information about their detection technology, Interpol has also given criminals an insight into how they can avoid detection.

You can bet that criminals are the most avid consumers of crime magazines, websites and programmes on TV. Last year, the FBI reported that fewer rape cases are being solved because attackers have started using forensic counter-measures, including condoms, gloves and bleach. As viewers of the *CSI* television series will know, bleach destroys DNA. In the same way, anyone wanting to deface an image irreversibly will now avoid using the swirling distortion used in the Interpol case and may choose a more challenging technique.

Anders Persson, the Swedish police officer who oversees Interpol's child abuse image database, has been quoted as saying that the release of the photos sent "a quite clear message" to criminals that they cannot rely on anonymity on the internet. The downside of this release of information is that the criminals know they need to raise their game to avoid detection. In fact, Persson himself had been against releasing the images for this very reason.

Essentially, law enforcement has a balance to make. In this case, it decided that it was more important to capture this suspect than to keep its detection technologies secret. Persson said, "It was a long discussion. We can't just sit there and do nothing. We [had] exhausted all possibilities within police work to find this man." In the end the strategy worked, with the suspect under arrest. Unfortunately, police will have to develop new ways to unblur images, because criminals will inevitably use different techniques to obscure their identities.

WORD SPREADS

The debate over sharing knowledge to help catch criminals versus keeping that knowledge away from criminals extends to a wide variety of computer-related technologies. Virus researchers use various tools and techniques to capture and analyse computer viruses and other malware. Sometimes they share virus samples, software and methods. Naturally, the virus authors keep abreast of the latest trends and implement counter-measures to ensure the success of their evil software.

Many researchers use virtual machines such as VMware to provide a safe environment for observing the behaviour of malware. According to security firm Trend Micro, as many as one in four pieces of the malware that it handles can detect if they are being run in a virtual environment.

When this happens, the bad program either stops working or behaves innocently, working on the premise that it is being observed by an analyst. It doesn't want to give its game away too easily.

It's hard for criminals to take counter-measures against an unknown threat, which is why police surveillance operations, computer security companies and child abuse protection units don't generally release detailed information about their tools, techniques and timetables. However, in certain cases, the urgency in catching a criminal is greater than the value of keeping forensic techniques hidden from potential perpetrators. Besides which, you can bet that Interpol's technical skills with computers reaches far beyond unswirling digital photos.

Simon Edwards

Web developer and security expert

IN BRIEF

APPLE GATHERS TOUCH-SCREEN APPS

Apple has added a new section to its website that gathers together all the iPhone- and iPod touch-friendly web applications.

From Facebook and flight information to blogging and the Bible, there should be enough on offer to resist any temptation to hack the phone or iPod to destruction. The new Web Apps directory can be found at www.apple.com/webapps.

MICROSOFT BUYS A STAKE IN FACEBOOK

Microsoft has bought a minority share in social networking site Facebook in a multi-million dollar deal.

Under the agreement Microsoft will pay \$240m (around £120m) for a mere 1.6 per cent share of the company. This puts the total value of the site at \$15 billion (£7.5 billion). The two companies were in talks for over a month regarding the investment.

FREE WIFI ON THE BUSES

National Express is to provide free WiFi on its bus service between Milton Keynes and London's Canary Wharf.

This will be the company's second free service, following the introduction of WiFi on its Cambridge to London service earlier this year. Both use technology from Moovera that connects internet gateway and wireless router hardware on the bus to Vodafone's 3G network.

3 UNVEILS MOBILE SKYPE PHONE

Internet telephony company Skype and 3G mobile operator 3 have released a new handset that will allow users to make free calls over the internet.

The £50 Skypephone handset can make conventional mobile calls and calls to other Skype users, and also supports instant messages. However, it's not possible to use the SkypeOut service to make cheap calls to regular phone numbers.

Customers need to be on a contract or top up their account with £10 every 30 days to qualify for free calls.



Your say: the violent game debate

Do violent games cause emotional damage and violence in those who play them? As *Manhunt 2* is banned in the UK for the second time, we asked members of the *Computer Shopper* forum what they thought about the issue. Here's what they had to say:

"[It's] just like, and no worse, than all those violent films we're allowed to watch. Remember how Manhunt 1 (by no means a great game) only sold in any real numbers after the likes of the Sun and the Daily Mail jumped on it with their usual grasp of the situation?"

Login: pcermie, joined: 05 Apr 2006, posts: 1,848, location: Belfast

"Society likes to think that there's a cause for everything, and where there doesn't seem to be any apparent cause will apportion blame accordingly. It used to be 'video nasties' and music by Judas Priest when I was growing up, now it's violence in video games."

Login: timark_uk, joined: 16 Apr 2003, posts: 16,522, location: Belfast

"More research on how simulation and gaming affects behaviour is definitely needed as games evolve and become more realistic and immersive. Of course this does not make any difference to responsibility, just as behavioural

change due to drinking, for example, is that person's responsibility as well."

Login: Stonespear, joined: 23 Nov 2006, posts: 382

"I wonder what the press would do if a Chris de Burgh fan went on a rampage? Maybe someone who'd been playing Viva Piñata before they left the house – what would they say about that?"

Login: gavomatic57, joined: 18 Jun 2006, posts: 2,029, location: Wales

If you want to have your say, join in the discussion at www.computershopper.co.uk.



▲ Are violent games such as *Manhunt 2* to blame for violent behaviour? Let us know what you think on the *Shopper* website

CRAZE

What the web is really for with Will Head

Zombies need friends, too

Just because you're a member of the undead, flesh-eating underclass doesn't mean you have to forgo social interaction with other like-minded folk. In the build-up to Halloween, October turned out to be a bumper month for Zombie gatherings across the globe.

Organised through sites such as Crawl of the Dead (www.crawllofthedeath.com) and Zombie Meetup (<http://zombies.meetup.com>), people that enjoy dressing up in Zombie clothing, liberally applying fake blood and making their skin look as bad as possible had a hassle-free way of contacting others that share their passion, without the risk of misunderstanding. It's not as though you can discuss this sort of stuff down the pub with people you've only just met, after all.

Similar to the Flash Mob phenomenon, where people coordinated via the internet would gather in a public place at a specific time, Zombie crawls start with a similar aim, but with better costumes and more chance of freaking out passers by.

The internet provides not only a means to coordinate events, but also a way to swap Zombie tips for that perfect look. Where else could you hope to happen across conversations such as how

best to attach a kitchen knife to your torso for that authentic, just-risen-from-the-dead look?

"Last year, I stuck a regular kitchen knife in my chest," wrote Tony Nibbles (presumably not his given name) on the Crawl of the Dead forum. "Did the trick, too: it looked great!"

"I bent the end of a knife in a vice, then bolted the right angle to the top of a baked bean tin. I then covered the sharp edges and gaffa-taped the whole thing to my chest. Put putty around the bolts and squirted the blood on – it was awesome! You could grab the knife and wiggle it – it wouldn't budge and my chest would eerily move around with it."





First looks

Every month we bring you sneak previews of the latest kit from www.computershopper.co.uk

Sapphire DPF080

It arrived too late for our Top Gadgets Labs (see page 117), but Sapphire's DPF080 is the cheapest digital photo frame we've seen. At around £80 including VAT, it's almost £50 cheaper than its nearest competitor.

With a clear plastic bezel and a pack of coloured bezels to choose from (green, white, pink, silver and black), the DPF080 looks fairly stylish and can be altered to match your room's decor.

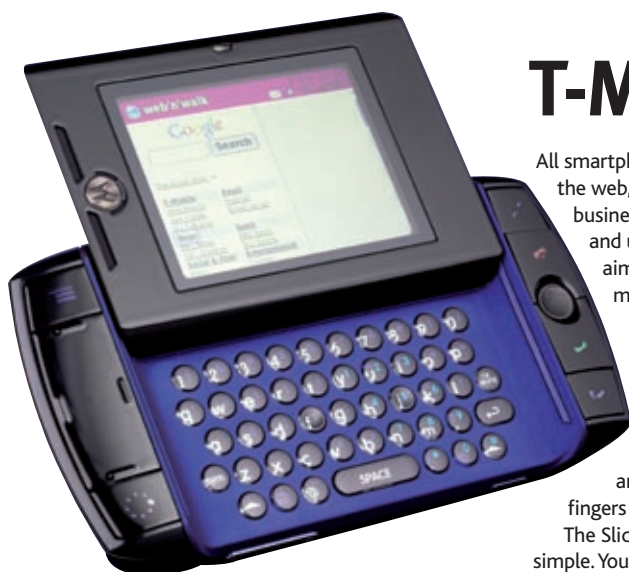
Fortunately, the low price doesn't translate into poor picture quality. The bright, 800x600 screen displays a very sharp picture, with natural colours and no obvious banding or other image defects. You get the best image quality when the frame is in landscape mode; switching to portrait highlights some poor viewing angles, and standing to the right of the screen makes the image look very dim.

If you don't fancy using the stand, hooks in the back of the frame let you hang the DPF080 on a wall like a regular picture.

Control of the frame is best using the remote control. The menu system looks a little dated, but it's easy enough to use and the thumbnail view of images makes it easy to find the picture you're after.

Photos can be displayed from SD, CompactFlash, MMC or Memory Stick memory cards. However, when we inserted a memory card and selected Photo from the frame's main menu, it displayed an error message, saying that no files were found. Pressing Photo on the remote control fixed the problem.

Finally, the frame can be used to play MPEG, AVI and DAT videos, as well as MP3s. None of these features is particularly good, though, and the DPF080 is best for photos.



T-Mobile Sidekick Slide

All smartphones can send email and browse the web, but they are often aimed at business users and can be tricky to set up and use. T-Mobile's Sidekick range is aimed at consumers, and aims to make staying in touch easy.

It is fairly large, but it's very light. The phone's screen is in landscape format, and the Sidekick is designed to be used on its side. The main screen slides up to reveal a QWERTY keyboard, and there's more room for your fingers than on a BlackBerry.

The Slide's interface is stripped down and simple. You scroll through the main menu with a trackball on the right of the handset to

select email, organiser, web or instant messaging. The phone has a setup wizard that registers your details with T-Mobile and automatically sets up the email client. As the phone supports Push email, messages arrive on the handset almost instantly. The instant messaging client is a good way to save money on text messages, but you'll need a Yahoo! email account to use it.

The Slide has a simple web browser, which makes a reasonable job of reformatting full-size webpages. It only supports GPRS rather than 3G, but T-Mobile compresses images so they load quickly. The Slide isn't as powerful as some smartphones, but it's very easy to use and should be good value on a contract. Look out for a full review in next month's *Shopper*.

Mio DigiWalker A702

It won't be on sale until early 2008, but we've got our hands on Mio's new A702 – a Windows Mobile 6 smartphone with a built-in GPS receiver. The device fits snugly in the palm of your hand, while the 2.7in 240x320-pixel touch screen is big enough for a clear view of your satellite navigation software.

Although the A702 doesn't come with Mio's navigation software, you do get a windscreen mount, car charger and mains adaptor in the box. You also get a hands-free kit with stereo earphones. This is handy because the 2.5mm jack limits your choices of alternative headphones.

The phone is quad-band and the device is powered by a 400MHz Samsung processor. It has 128MB of storage, but you can add capacity via the microSD card slot. WiFi, Bluetooth 2.0 and a built-in 3.2-megapixel camera round off the impressive feature list. As GPS is built in, photos are geotagged so you can browse by location taken.

Although it's a pre-production unit, our sample felt solidly built and was responsive when using Mio Map 3.3. Pricing is likely to be around £400 including VAT at launch, but watch out for our in-depth review next month.

